Oxidation of Metals, Vol. 24, Nos. 5/6, 1985

Author Index for Volume 24

Alonzo, J., 17
Atkinson, H. V., 177

Baldo, P., 1
Barnes, J., 85
Baxter, D. J., 331
Bhatia, M. L., 315

Corish, J., 47, 85, 277

Franck, F., 85

Glascott, J., 99

Kofstad, Per, 265

Larpin, J. P., 29

Malik, A. U., 233
Moosa, A. A., 115, 133

Natesan, K., 331
Norton, J. F., 85
Nowicki, L. J., 115

Perez, M., 29

Ramanarayanan, T. A., 17
Rothman, S. J., 115, 133

Sagar, P. K., 315
Schütze, M., 199
Seshan, K., 1
Sivakumar, R., 315
Smith, P. J., 47, 277
Stott, F. H., 99

Tyler, J. W., 149

Van der Biest, O., 47, 277

Wiedersich, H., 1
Wood, G. C., 99

0030-770X/85/1200-0351$04.50/0 © 1985 Plenum Punlishing Corporation

Subject Index for Volume 24

Carbide-dispersed alloys, oxidation, 223
Carbides, influence of sulfur on morphology, 85
Carburizing atmosphere, initial oxidation Fe-Cr-Ni, 277
Chromium, role of short-circuit diffusion on oxidation, 177
CO_2, oxidation of 20Cr-25Ni stainless, 149
Copper, oxidation at 800°C in SEM, 17
Cracking of protective scales, under tensile strength, 199
Cu_2O, reduction at 800°C in SEM, 17

Deformation of protective scales under tension, 199
Diffusion, grain boundary, Ni in NiO, 115
Diffusion, volume, Ni in NiO, 115

Electrochemical aspect, hot corrosion of Ni-Cr, 315
Erosion, effect of oxides on sliding wear, 99

Fe-Cr-Ni, high temperature corrosion, carburizing atmosphere, 47
Fe-Mn-Al, sulfidation, 29
Fe-Mn, sulfidation, 29
Fe-Ni-Cr, commercial alloys, initial corrosion in carburizing-low Po_2 atmosphere, 277
Fe-Ni-Cr, effect of sulfur on carbide morphology, 85
Fe-Ni-Cr-Zr, initial oxidation *in-situ* in TEM, 331

Heat-resistant alloys, cracking of protective scales, 199
High-voltage TEM, *in-situ* oxidation Fe-Ni-Cr-Zr, 331
Hot corrosion, electrochemical aspect, Ni-Cr alloys, 315

Internal oxidation, lithiated nickel, 1
Iron-base alloys, carbide-dispersed, oxidation, 233

Lithiated nickel, internal oxidation, 1

Microchannels, formation of in growing scales, 265

Nickel, lithiated, internal oxidation, 1
Nickel oxidation, effect of yttrium additions, 133
Nickel, oxidation, role of short-circuit diffusion, 177
Ni-Cr alloys, electrochemical nature of hot corrosion, 315
Ni-Cr alloys, oxidation, role of short-circuit diffusion, 177

Porosity, formation of in growing scales, 265

SEM, *in-situ* oxidation of Cu and reduction of Cu_2O, 17
Short-circuit diffusion, review, 177
Sliding wear of alloys, effect of oxides, 99
Stainless steel, 20Cr-25Ni, initial oxide formed, 149

0030-770X/85/1200-0353$04.50/0 © 1985 Plenum Publishing Corporation

Sulfidation, austenitic Fe-Mn and Fe-Mn-Al alloys, 29
Sulfur, influence on carbide morphology, 85

Tensile strain, effect on cracking of scales, 199
Transition-metal carbides, dispersed in Fe-alloys, 233

Yttrium, effect of on diffusion in NiO, 115
Yttrium, effect of on oxidation of nickel, 133

Instructions to Contributors

1. Manuscripts should be sent to:

   Prof. D. L. Douglass
   Materials Department
   Room 6531, Boelter Hall
   University of California at Los Angeles
   Los Angeles, California 90024

2. Submission is a representation that the manuscript has not been published previously and is not currently under consideration for publication elsewhere. A statement transferring copyright from the authors (or their employers, if they hold the copyright) to Plenum Publishing Corporation will be required before the manuscript can be accepted for publication. The Editor will supply the necessary forms for this transfer. Such a written transfer of copyright, which previously was assumed to be implicit in the act of submitting a manuscript, is necessary under the new U.S. Copyright Law in order for the publisher to carry through the dissemination of research results and reviews as widely and effectively as possible.

3. Type double-spaced, and submit the original and two copies (including, where possible, copies of all illustrations and tables).

4. An abstract of 150 words or less is to be provided.

5. A list of 4–5 key words is to be provided directly below the abstract. Key words should express the precise content of the manuscript, as they are used for indexing purposes, both internal and external.

6. Illustrations (photographs, drawings, diagrams, and charts) are to be numbered in one consecutive series of Arabic numerals. The captions for illustrations should be typed on a separate sheet of paper. Photographs should be large, glossy prints, showing high contrast. Drawings should be prepared with india ink. Either the original drawings or good-quality photographic prints are acceptable. Identify figures on the back with author's name and number of the illustration.

7. Tables should be numbered and referred to by number in the text. Each table should be typed on a separate sheet of paper.

8. References should be made by using superscript Arabic numerals, and the full references should be given in a list at the end of the paper. For maximum clarity, abbreviations should be avoided in the references. Whenever a book is cited, the number of the relevant chapter should be given.

9. In general, *Oxidation of Metals* follows the recommendations of the American Institute of Physics in their *Style Manual*, and it is suggested that contributors refer to this publication.

10. **The journal makes no page charges.** Reprints are available to authors, and order forms are sent with proofs.

OXIDATION OF METALS

Vol. 24, Nos. 5/6 December 1985

CONTENTS

High-Temperature Oxidation of Transition Metal, Carbide-Dispersed Iron-Base Alloys 233
A. U. Malik

On the Formation of Porosity and Microchannels in Growing Scales 265
Per Kofstad

Initial Stages of the High-Temperature Corrosion of Commercial Fe-Cr-Ni Alloys in a Carburizing Atmosphere of Low Oxygen Partial Pressure 277
P. J. Smith, O. Van der Biest, and J. Corish

On the Electrochemical Nature of Hot-Corrosion Attack in Ni-Cr Alloys 315
R. Sivakumar, P. K. Sagar, and M. L. Bhatia

A Study of the Initial Stages of Oxidation of Fe-Cr-Ni-Zr Alloys *In Situ* Using a High-Voltage Electron Microscope 331
D. J. Baxter and K. Natesan

Author Index for Volume 24 351

Subject Index for Volume 24 353